CLAIMS:

1. A vehicle equipped with a power output device that is capable of outputting a driving force to a drive shaft linked with left and right wheels, said vehicle comprising:

a mechanical braking device that is capable of outputting a mechanical braking force to each of the left and right wheels;

a slip detection module that detects a slip on each of the left and right wheels caused by wheelspin; and

a controller that, in response to detection of a slip caused by spin of one of the left and right wheels by said slip detection module, drives and controls said power output device to restrict the driving force output to the drive shaft, while actuating and controlling said mechanical braking device to output a mechanical braking force to the spinning one of the left and right wheels.

2. A vehicle in accordance with claim 1, wherein said controller actuates and controls said mechanical braking device to output a braking force to the spinning one of the left and right wheels, so as to distribute the driving force output from said power output device to the drive shaft practically equally into the left and right wheels.

3. A vehicle in accordance with either one of claims 1 and 2, said vehicle further comprising:

a road surface gradient measurement estimation module that either measures or estimates a road surface gradient,

wherein said controller actuates and controls said mechanical braking device, in response to detection of at least a converging tendency with regard to the spin of one of the left and right wheels, to output the braking force to the spinning one of the left and right wheels, based on the measured or estimated road surface gradient.

4. A vehicle in accordance with claim 3, wherein said road surface gradient measurement estimation module estimates a balancing force, which balances with a force applied to said vehicle in a direction along a road surface based on an acceleration of said vehicle and the driving force output from said power output device, as the road surface gradient, and

said controller calculates a supplementary braking force corresponding to an insufficiency of the driving force output from said power output device to the drive shaft relative to the estimated balancing force, and actuates and controls said mechanical braking device to output a total braking force including the calculated supplementary braking force to the spinning one of the left and right wheels.

5. A vehicle in accordance with either one of claims 1 and 2, said vehicle further comprising:

an upper limit braking force setting module that sets

an upper limit of the braking force output to the spinning one of the left and right wheels,

wherein said controller actuates and controls said mechanical braking device to output the braking force in a range of the setting of the upper limit to the spinning one of the left and right wheels.

6. A vehicle in accordance with claim 5, said vehicle further comprising:

a vehicle speed sensor that measures a vehicle speed,

wherein said upper limit braking force setting module sets the upper limit of the braking force, based on the measured vehicle speed.

7. A vehicle in accordance with claim 5, said vehicle further comprising:

a road surface gradient measurement estimation module that either measures or estimates a road surface gradient,

wherein said upper limit braking force setting module sets the upper limit of the braking force, based on the measured or estimated road surface gradient.

8. A vehicle in accordance with either one of claims 1 and 2, wherein said controller actuates and controls said mechanical braking device to output the mechanical braking force to the spinning one of the left and right wheels, subject

to fulfillment of a predetermined execution condition.

9. A vehicle in accordance with claim 8, wherein the predetermined execution condition includes at least one of a gearshift position in a forward drivable range, an accelerator-on state, a driving force demand of not less than a preset level required to the drive shaft, and a brake-off state.

10. A vehicle in accordance with claim 8, wherein said controller terminates the output of the braking force to the spinning one of the left and right wheels, when the predetermined execution condition fails to be fulfilled in the course of the output of the braking force to the spinning one of the left and right wheels.

11. A vehicle in accordance with either one of claims 1 and 2, said vehicle further comprising:

a vehicle speed sensor that measures a vehicle speed,

wherein said controller terminates the output of the braking force to the spinning one of the left and right wheels, when the measured vehicle speed exceeds a threshold value in the course of the output of the braking force to the spinning one of the left and right wheels.

12. A vehicle in accordance with claim 11, said vehicle

further comprising:

a road surface gradient measurement estimation module that either measures or estimates a road surface gradient,

wherein the threshold value is set according to the measured or estimated road surface gradient.

13. A vehicle in accordance with claim 12, wherein the threshold value is set to decrease with an increase in road surface gradient as an ascending slope.

14. A vehicle in accordance with either one of claims 1 and 2, wherein said controller terminates the output of the braking force to the spinning one of the left and right wheels, in response to detection of a slip caused by spin of the other wheel of the left and right wheels by said slip detection module in the course of the output of the braking force to the spinning one of the left and right wheels.

15. A vehicle in accordance with either one of claims 1 and 2, said vehicle further comprising:

a temperature rise detection estimation module that either detects or estimates a predetermined temperature rise in said mechanical braking device,

wherein said controller terminates the output of the braking force to the spinning one of the left and right wheels, in response to either detection or estimation of the

predetermined temperature rise in said mechanical braking device in the course of the output of the braking force to the spinning one of the left and right wheels.

16. A vehicle in accordance with claim 15, wherein said temperature rise detection estimation module estimates the predetermined temperature rise in said mechanical braking device, when the output of the braking force to the spinning one of the left and right wheels continues for a predetermined first time.

17. A vehicle in accordance with claim 15, wherein said controller prohibits output of a braking force in response to spin of one of the left and right wheels over a predetermined second time, after the termination of the output of the braking force.

18. A vehicle in accordance with either one of claims 1 and 2, said vehicle further comprising:

a lock detection module that detects a lock of each of the left and right wheels,

wherein said controller terminates the output of the braking force to the spinning one of the left and right wheels, in response to detection of a lock of the spinning one of the left and right wheels by said lock detection module in the course of the output of the braking force to the spinning one

of the left and right wheels.

19. A vehicle in accordance with either one of claims 1 and 2, said vehicle further comprising:

a revolution speed measurement sensor that respectively measures revolution speeds of the left and right wheels; and

a rudder angle measurement estimation module that either measures or estimates a rudder angle,

wherein said slip detection module detects a slip on each of the left and right wheels, based on the measured revolution speeds of the left and right wheels and the measured or estimated rudder angle.

20. A vehicle in accordance with either one of claims 1 and 2, wherein said slip detection module detects a slip caused by spin of a drive wheel, based on at least one of an angular acceleration of the drive shaft and a difference between revolution speeds of drive wheels as the left and right wheels linked with the drive shaft and revolution speeds of driven wheels with no output of driving force, and

said controller drives and controls said power output device to restrict the driving force output to the drive shaft, in response to detection of a slip caused by the spin of the drive wheel.

21. A control method of a vehicle equipped with a power

output device that is capable of outputting a driving force to a drive shaft linked with left and right wheels and with a mechanical braking device that is capable of outputting a mechanical braking force to each of the left and right wheels, said control method comprising the steps of:

(a) detecting a slip on each of the left and right wheels caused by wheelspin; and

(b) in response to detection of a slip caused by spin of one of the left and right wheels in said step (a), driving and controlling said power output device to restrict the driving force output to the drive shaft, while actuating and controlling said mechanical braking device to output a mechanical braking force to the spinning one of the left and right wheels.